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BULLETIN
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Botany of the Marysville Buttes.

By Willis L. Jepson.

Almost in the center of the Sacramento Valley and on the level plain between the two great forks of the Sacramento River, the upper Sacramento and the Feather, lie the Marysville Buttes. Entirely isolated from either the Sierra Nevada or the Coast Range, rising abruptly on every side to a considerable elevation from the level plains, these mountains with their ragged summits and sharp slopes form a striking landmark visible from nearly every portion of the northern Sacramento Valley.

I made my way to the Buttes by means of a river steamer. The banks of the stream were fringed with a dense growth of box elder, oak, willow, cottonwood and sycamore, with a thick undergrowth of *Rubus*, *Vitis*, *Sambucus* and *Baccharis*. An occasional break revealed the extensive tule swamps bordering the river for miles, all aglow with great patches of *Cotula*. It was as yet too early to expect much along the river banks and bottoms in the way of annual growths, the winter freshets having only lately receded. But on the plains around Yuba City there was plenty of vegetation and the flora appeared little different from that of the valley sixty miles below; the characteristic spring plants were there in abundance, lupines, clovers, larkspurs, buttercups, *Brodiæas*, *Tritelias*, *Layias*, *Eschscholtzias*, *Allocaryas* and *Orthocarpi*. But the moment I reached the Buttes the flora to all appearances changed entirely.

However, I must not risk generalizations; the vegetable riches of that region are too little known. I spent only one day in Sutter County and barely four hours at the Buttes; but in that time some one hundred and ten species fell into my hands, at least three of which were undescribed. No botanist has to my knowledge ever made a collection to illustrate even partially the flora of this peculiarly isolated compact group of hills. The water expedition of the Wilkes party from San Francisco, of which Dr. Pickering was plant collector, ascended the Sacramento River in August, 1841, and "passed the Prairie Buttes, which are a collection of isolated hills rising from the level plain as if out of the sea." The land expedition of the same party from Oregon encamped at nightfall "after an ineffectual search for water..... in the valley or 'kraal' of the Buttes" and left the next morning. This was October, the dryest season of the year. From this point, Butte Pass, they call it now, I climbed to the summit of the South Peak, nearly two thousand feet above the level of the valley, and two thousand one hundred and twenty-eight above the sea.

The Buttes have at a distance a very barren appearance, and they are in fact but little wooded. The annual growth was, however, everywhere luxuriant, even to the summits of the highest rocky points. The sides of the little cañon which I entered were clothed with dwarfed oak trees, rhamnus and holly bushes and undershrubs. Over the tops of the oaks and other trees clambered the clematis, lighting the whole cañon side with its wonderful profusion of blossoms.

As to whether the affinities of the flora are with the Coast Range or Sierra Nevada can only be determined by more extensive and protracted collecting. My time was perforce too short, and many of the very common things were neglected. Widely introduced plants and native species of extensive geographical range one would naturally expect to find here. About the old settlements on the Feather River, *Marrubium vulgare* grew rankly; on the Sutter Plains *Capsella bursa-pastoris*, *Silene Gallica*, *Achyrachæna mollis*, *Sonchus oleraceus*, were frequent; and at the Buttes, *Sanicula Menziesii*, *Micropus Californicus*, *Rigiopappus leptocladus*, *Hypochæris glabra*, *Malacothrix obtusa*, *Githopsis specularioides*, *Salvia Columbariæ* and *Plantago Pata-*

gonica. A less hasty survey would have undoubtedly yielded more similar plants.

I give below a list of the major portion of the plants of which I obtained specimens, even of many very well known species. My excuse for so doing must be that the flora of this region has been hitherto almost unknown, that nearly one-third of the list have their geographical range extended as given in the State Survey volumes on botany, that many novel and interesting forms were obtained, and that several others have here their second known station recorded.

The collection from the Sutter plains and the Buttes was made on April 20, 1891; that from the Feather River on the day previous.

Clematis lasiantha, Nutt. in Torr. and Gray, Fl. i. 9.

Up to about 900 ft.

Ranunculus Eiseni, Kellogg, Proc. Calif. Acad. vii. 115.

Sufficiently distinguished from *R. Californicus* by its smaller size, hairiness, cuneiform segments of the three-parted radical leaves, and fewer (commonly five) petals. Sutter plains.

Ranunculus hebecarpus, H. and A. Bot. Beechey, 316.

Lower cañon sides, South Peak.

Delphinium variegatum, Torr. and Gray, Fl. i. 32.

Sutter plains.

Delphinium decorum, F. and M. 3rd Ind. Sem. Petr.

Wooded cañons, South Peak.

BERBERIS DICTYOTA. Erect, only six inches high: leaflets commonly five, sometimes only three or four, not crowded, coriaceous, ovate with undulate margins and spinose teeth, one to two and one-fourth inches long, pale green below, bright shining green above, very strongly reticulated on both faces: racemes terminal, clustered, 9-12 lines long: fruit unknown.

The mark of this species as compared with *B. pinnata*, which it mostly resembles, is in its few, coriaceous and strongly reticulated leaflets. These, with the rigid acuminate teeth and undulate margins, give the plant a very spiny appearance. Only one specimen seen and that near the rocky summit of South Peak.

Platystemon Californicus, Benth. Trans. Hort. Soc. 2 ser. i. 405.

Sutter plains. What is probably a dwarfed form only four to six inches high, with erect habit, radical tuft of leaves, and pods never more than one or two seeded, was found at 1500 ft. on South Peak.

Eschscholtzia crocea, Benth. Trans. Hort. Soc. n. ser. i. 406.

The most widely distributed and showy flowered Eschscholtzia of the interior parts of California, and which is common in cultivation as *E. Californica*, is not the plant of Chamisso. The true *E. Californica* belongs to the sand dunes and coast hills of San Francisco and Monterey, and that is where the botanists of the Russian expedition obtained it. The one of the Sacramento and San Joaquin Valleys, which I am now considering, is without doubt the *E. crocea* of Bentham. They are both perennial, but *E. crocea* is different in size, habit, hue of foliage, and color of flowers. Its chief marks are the large size of the orange corolla; the conspicuously spreading scarious torus rim; and the long-conical calyptra, as distinguished from that of *E. Californica*, which is oval and abruptly short-pointed. My specimens from the Buttes agree perfectly with the figure in the Botanical Register, t. 1677.

Eschscholtzia tenuifolia, Hook. Bot. Mag. t. 4812, not of Benth.

Peduncle quadrangular; pod peculiar in the prominence of the ribs. In fruit; only a few of the pale yellow flowers lingering. Willow Branch.

Eschscholtzia hypecoides, Benth. Trans. Hort. Soc. n. ser. i. 407.

A good species and very easily distinguished from the foregoing. That has the leaves all radical, seldom more than half the length of the numerous quadrangular scapes, finely and often sparingly cut into linear divisions; corolla 3-5 lines long, yellow; capsule curved, seeds strongly muricate. This is more strictly erect with terete stems usually simple or 2-3 branched from the base; radical leaves fewer, somewhat leafy stemmed, all mostly twice pinnately cleft or parted into broader divisions, general outline broadly ovate, calyptra ovate-acuminate; petals orange, seven lines long; young capsule straight, mature fruit unknown.

At about 1600 ft. on South Peak.

Erysimum asperum, DC. Syst. ii. 405.

Near the summit of South Peak.

Nasturtium lyratum, Nutt. in T. and G. Fl. i. 73.

Strictly erect; leaves 2-4 inches long, oblong or obovate, irregularly toothed, or with sinuate divisions; silique 6-7 lines long, linear, ob-compressed, on pedicels a line long or less. Doubtfully referred here. A long series of specimens from all parts of the state is needed to define satisfactorily the limits of the species. Star Bend, Feather River; Yuba City.

Tropidocarpum gracile, Hook. Ic. Pl. t. 43.

Valley of the Butte Pass.

Lepidium Menziesii, DC. Syst. ii. 539.

Butte Pass.

Thyanocarpus elegans, F. and M. Ind. Sem. Hort. Petr. p. 51.

Pod four to five lines in diameter. Near the foot of South Peak.

Stellaria nitens, Nutt. in T. and G. Fl. i. 185.

Arenaria Douglasii, (Fenzl.) T. and G. Fl. i. 179.

On South Peak. Not before known north of Auburn and Sonoma.

Arenaria Californica, Brewer in Boland. Catal. 6.

Half-way up South Peak, on a soil composed of triturated sandstone.

Claytonia perfoliata, Donn, in Willd. Sp. ii. 1186.

Foot of South Peak.

Malva parviflora, Linn. Amœn. Acad iii. 416.

Butte Pass, in waste places.

Geranium Carolinianum, Linn. Sp. Pl. ii. 682.

Erodium Botrys, Bertoloni, Amœn. Ital. 35.

Willow Branch.

Rhamnus tomentella, Benth. Pl. Hartw. 303.

Acer Californicum, (T. and G.) Dietr. Syn. ii. 1283.

Recorded only from the Coast Range, along the Feather and Sacramento Rivers.

Cercis occidentalis, Torr. in Gray, Pl. Lindh. 177.

Reduced to a scraggy stiff-stemmed bush. Summit of South Peak.

Vicia Americana, Muhl. in Willd. Sp. iii, 1096.

Astragalus tener, (H. and A.) Gray, Proc. Am. Acad. vi. 206.

Near Yuba City.

Lotus Wrangelianus, F. and M. Ind. Sem. Petr. 16.

Base of South Peak.

Lotus nudiflorus, (Nutt.) Greene, Pitt. ii. 141.

The quadrate seeds with a rather marked notch. Not previously known north of Mt. Diablo; low hills, Butte Pass.

Trifolium gracilentum, Torr. and Gray, Fl. i. 316.

Sutter City.

Trifolium ciliolatum, (Nutt.) Benth. Pl. Hartw. 304.

Sutter City.

Trifolium columbinum, Greene, Pitt. i. 4.

A depauperate form. Sutter plains.

Trifolium variegatum, Nutt. in T. and G. Fl. i. 317.

Base of South Peak.

TRIFOLIUM TRILOBATUM. Annual, a span high, branched from the base and glabrous throughout; lower leaflets finely serrate or occasionally with coarsely toothed summits; upper leaves on peduncles one to two inches long; leaflets spinulose serrate, cuspidate, narrowly rhombic, often abruptly contracted above the middle, and even becoming three lobed; stipules nearly orbicular, with setaceous teeth, but not deeply cleft; involucre irregularly incised with spinulose divisions; calyx tube nearly a line long, with setaceous purple teeth a line and a half long; corolla four to seven lines long, purple with white-tipped banner.

The flowers are large for the slender habit of the plant, which grew in quite a mass by the side of a mountain brook at the base of South Peak.

Trifolium Watsoni, Loja. Giorn. Ital. xv. 186.

Hardly typical. Base of South Peak.

Trifolium microcephalum, Pursh, Fl. ii. 478.

Yuba City.

Trifolium fucatum, Lindl. Bot. Reg. t. 1883.

Sutter plains.

Lupinus micranthus, Dougl. in Bot. Reg. t. 1251.

Lupinus affinis, Agardh, Syn. 20.

Yuba City.

Lupinus albifrons, Benth. in Lindl. Bot. Reg. t. 1642.

Only formerly known from the vicinity of San Francisco and southward. South Peak, 1500 ft.

Lupinus microcarpus, Sims, Bot. Mag. t. 2413.

Sutter City.

Lupinus densiflorus, Benth Trans. Hort. Soc. n. ser. i. 409.

The yellow flowered form. Sutter plains.

Heteromeles arbutifolia, (Ait. f.), M. J. Rœmer, Syn. Monog. iii. 105.

The Buttes.

Rubus vitifolius, Ch. and Schl. in Linnæa, ii. 10.

Harding's Landing. Along the Feather and Sacramento Rivers.

Saxifraga Californica, Greene. Pitt. i. 286.

The Buttes.

Tellima affinis, (Gray) Boland. Catal. 11.

Wooded cañon sides, South Peak.

Tellima scabrella, Greene, Pitt. ii. 162.

Base of South Peak.

Sedum pumilum, Benth. Pl. Hartw. 310.

Gravelly hillside, Willow Branch.

Œnothera strigulosa, (F. and M.) Torr. and Gray. Fl. i. 512.

South Peak.

Œnothera graciliflora, H. and A. Bot. Beechey. 341.

South Peak.

Mentzelia pectinata, Kellogg, Proc. Calif. Acad. iii. 40.

I had described this Mentzelia as new when fortunately my attention was called to a species published twenty-three years ago by Dr. Kellogg. The description is fairly satisfactory and the figure agrees in nearly all respects. The leaves in my plant are not 3-nerved, but strongly 1-nerved. The figure hardly shows the petals as obcordate, although they are so described. The petals in my plant are obcordate, the distinct mucronation showing under a simple lens as a hairy cusp. The stems are dark with a glandular pubescence; leaves hispid. The beauty of the corolla appealed to Dr. Kellogg as always, for he describes it with minuteness: " flowers of a shining golden color, with a lustrous metallic hue, shading from a deep vivid orange to a burnt carmine center."

On the southern exposure of South Peak at about 1600 ft.—quite plentiful. Most nearly allied to *M. Lindleyi*, but the corolla not nearly so large and the shape of the petals different; the straight capsule only half as broad. My specimens were in good flower and showed no trace of losing the dark glandular indument of the stems. It is a pecularity of the related Californian species that they are of that shining whiteness which gave *M. albicaulis* its name. I have not much doubt that my plant is that of Kellogg. His specimens were from " mountains above Visalia." In any event it seems strange that the species should have been so long ignored in books on Californian botany.

Galium Nuttallii, Gray, Pl. Wright. 80.

Cañons near Butte Pass.

Galium asperrimum, Gray, Pl. Fendl. 60.

Leaves of my specimens uniformly in whorls of five, upper oblanceolate, lower spatulate, all abruptly cuspidate: young fruit densely hispid.

Valerianella congesta, Lindl. Bot. Reg. t. 1094.

Hillsides near South Peak.

Aplopappus linearifolius, DC. Prodr. v. 349.

Never before credited to any portion of California north of Mt. Diablo. At 1500 ft. on South Peak.

ERIGERON CALIFORNICUS. Near *E. divergens* but perennial, branched from the base, ascending, 6-10 inches high, cinereously hirsutulous, leafy up to the base of the peduncles of the scattered heads; radical leaves pinnately parted into five linear segments; cauline narrowly oblanceolate, entire, acutish; heads two or three lines high; rays about 60-75, not very narrow, purplish; pappus of ray and disk alike, of conspicuous squamellæ and very few (four or five) bristles.

Though near *E. divergens*, this is clearly distinguishable by its perennial habit, pinnate radical leaves, and fewer broader rays. On the very edge of the summit of South Peak.

Baccharis viminea, DC. Prodr. v. 400.

Nicolaus, Feather River. The most northern station yet recorded.

Gnaphalium Sprengelii, H. and A. Bot. Beechey, 150.

The Buttes.

Layia platyglossa, Gray, Pl. Fendl. 103.

The Buttes.

Layia Fremontii, Gray, Pl. Fendl. 103.

Sutter plains.

Wyethia helenioides, Nutt. Journ. Philad. Acad. vii. 38.

Hills, Butte Pass. Common around the Bay of San Francisco.

Bæria gracilis, Gray, Proc. Am. Acad. ix. 196.

The paleæ of the pappus too broad to be typical; attenuate into an awn which is not entire. Very likely a new species, but the material too young to determine satisfactorily its position. Low hills near South Peak.

Bæria Fremontii, Gray, l. c.

Base of South Peak.

*AGOSERIS HETEROPHYLLA (Nutt.). *Macrorhynchus heterophyllus*, Nutt. Trans. Am. Phil. Soc. vii. 430.

Low hills near South Peak.

AGOSERIS MAJOR. *Troximon elatum*, Greene, Pitt. i. 71.

Near the preceding but separated on account of its much larger size and expanded head thrice as broad; brownish, not whitish pappus. The name *elatum* is preoccupied by a species of Nuttall under Troximon.

Phlox gracilis, (Hook.) Greene, Pitt. i. 141.

South Peak.

Gilia pusilla, Benth. Bot. Reg. fol. 1622.

South Peak.

Gilia dichotoma, Benth. in DC. Prodr. ix. 314.

At about 1500 ft. Also in Butte Pass.

Gilia ciliata, Benth. Pl. Hartw. 325.

Sides of South Peak.

Gilia achilleæfolia, Benth. Bot. Reg. fol. 1622.

The calyx far less tomentose than in the forms around San Francisco Bay. Butte Pass.

Gilia tricolor, Benth. l. c.

Butte Pass.

**Agoseris*, Raf. Fl. Ludov. 58 (1817) is the earliest name for this genus, the species of which have latterly been referred to *Troximon*.

Nemophila insignis, Dougl. in Benth. Trans. Hort. Soc. n. ser. i. 479.

Valley of the Butte Pass.

Nemophila parviflora, Dougl. in Benth. Trans. Linn. Soc. xvii. 275.

Lower cañon sides, South Peak.

Phacelia tanacetifolia, Benth. in Lindl. Bot. Reg. t. 1696.

Butte Pass.

Amsinckia intermedia, F. and M. Ind. 2. Sem. Petr. 1835. p. 26.

Growing four feet high in the fields and often crowding out all other vegetation. Sutter plains.

Allocarya stipitata, Greene, Pitt. i. 19.

Sutter plains.

Plagiobothrys canescens, Benth. Pl. Hartw. 326.

Low hills. Another plant from 1600 ft. has an erect habit, is only six inches high, and much smaller and narrower fruiting calyx, as distinguished from the other, which has the usual trailing habit and broad flat calyx. I am, however, unable to discern the slightest difference in the nutlets.

Cryptanthe flaccida, (Lehm.) Greene, Pitt. i. 15.

The Buttes.

Solanum umbelliferum, Esch. Mem. Acad. Petrop. x. 281.

An entirely glabrous form marked by its strict habit, paucity of foliage, and rather small pale flowers. On South Peak.

Collinsia bicolor, Benth. Bot. Reg. 1734.

Butte Pass.

Pentstemon corymbosus, Benth. in DC. Prodr. x. 593.

Near the summit of South Peak.

Mimulus guttatus, DC. Cat. Hort. Monsp. 127.

The Sutter plains.

Castilleia parviflora, Bongard, Veg. Sitcha. 158.

On South Peak.

Orthocarpus attenuatus, Gray, Pac. R. Rep. iv. 121.

Low hills near Butte Pass.

Orthocarpus purpurascens, Benth. Scroph. Ind. 13.

Abundant in Butte Pass and frequent on the Sutter plains.

Chenopodium Californicum, Wats. Bot. Calif. ii. 48.

The Buttes.

Umbellularia Californica, Nutt. Sylv. i. 87.
South Peak.
Salix lasiolepis, Benth. Pl. Hartw. 335.
Butte Pass.
Populus Fremontii, Watson, Proc. Am. Acad. x. 350.
Mahon's Landing, Feather River.
Quercus Wislizenii, ADC. Prodr. xvi². 67.
Lower slopes of South Peak.
Quercus dumosa, Nutt. Sylva. i. 7
At about 1000 ft. This is an oak of southern rather than northern California. It has been found as far north in the Coast Range as the vicinity of Clear Lake.
Aristolochia Californica, Torr. Pac. R. Rep. iv. 128.
Summit of South Peak.
Tritelia ixioides (Ait. f.), Greene, Bull. Cal. Acad. ii. 42.
On the slopes of South Peak.
Tritelia laxa, Benth. Trans. Hort. Soc. n. ser. i. 423. t. 15.
Sutter City and the Buttes.
Brodiæa capitata, Benth. Pl. Hartw. 339.
Butte Pass.

On the Citing of Ancient Botanical Authors.

BY N. L. BRITTON.

My review of Professor Greene's "Flora Franciscana" (BULLETIN, this volume, pp. 158-160), has been made by him the text of a most scholarly paper in the recent pages of his "Pittonia." His explanations, arguments and criticisms of my remarks are most skillfully drawn, and it is with a feeling that I have but little chance to win in the friendly dispute that I again essay to break a lance with him. However, it is perhaps desirable that I should have another word before my position shall have been rendered entirely untenable.

I have not accused my friend of originality in attributing generic names to the ancient Greeks and Romans. I am well aware of the truth of his statement, that he has not "entered upon course of procedure which has not been taken by learned and famous botanists at one time and another within the last century," even so lately as Baron F. von Mueller's "Second Systematic